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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,024	12/20/2005	Mitsuru Sekiya	44471/324299	1311

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EXAMINER	
AURORA, REENA	

ART UNIT	PAPER NUMBER
2862	

MAIL DATE	DELIVERY MODE
01/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

. Office Action Summary	Application No.	Applicant(s)	
	10/595,024	SEKIYA, MITSURU	
	Examiner	Art Unit	
	Reena Aurora	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4, 7and 20 - 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4, 7and 20 - 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This communication is in response to amendment received on 12/21/07.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 7 and 20 - 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oudet et al. (5,532,585) in view of Welsch et al. (2003/0137293).

As to claims 4 and 20, Oudet et al. (hereinafter Oudet) discloses a position sensor comprising a non-contact position sensor comprising: a slider (12) having a magnet (3) having a front face along a longitudinal direction of the magnet that has one polarity and a back face along the longitudinal direction of the magnet that has an opposite polarity; a main stator (1) consisting of a magnetic body having a pair of opposed wails (4, 5) forming an area in which the slider enters while keeping a predetermined clearance, the opposed walls (4, 5) corresponding to the front and back faces of the magnet (7), and a first gap (2) continuing into the opposed walls (4, 5); a magnetically-sensitive sensor (7) arranged in the first gap to detect a position of the slider (12) corresponding to a percentage of the magnet (3) entering the area. Oudet fails to show an assist stator for preventing magnetic flux, which is generated in a part of

the magnet that does not enter the area, from leaking out to the main stator, wherein the assist stator has a pair of opposed walls corresponding to front and back faces of the part of the magnet that does not enter the area and a second gap continuing into the opposed walls of the assist stator. Welsch et al. (hereinafter Welsch) discloses a path sensor comprising an assist stator (2) for preventing magnetic flux, which is generated in a part of the magnet that does not enter the area, from leaking out to the main stator (3) (fig. 1), wherein the assist stator (2) has a pair of opposed walls corresponding to front and back faces of the part of the magnet that does not enter the area and a second gap continuing into the opposed walls of the assist stator (2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Oudet in view of the teachings of Welsch such that providing a magnetic flux leakproof member or assist stator to prevent the leakage of magnetic flux would increase the efficiency of the device.

As to claims 7 and 21, Oudet discloses a position sensor comprising a slider (12) having a magnet (3) having a front face along a longitudinal direction of the magnet that has one polarity and a back face along the longitudinal direction of the magnet that has an opposite polarity; a main stator (1) consisting of a magnetic body having a pair of opposed walls (4, 5) forming a first area in which the slider enters while keeping a predetermined clearance, the opposed walls (4, 5) corresponding to the front and back faces of the magnet (3), and a first gap (2) continuing into the opposed walls and a magnetically-sensitive sensor (7) arranged in the first gap of the main stator (1) to detect a position of the slider corresponding to a percentage of the magnet (3) entering

the first area of the main stator (1). Oudet fails to show an assist stator arranged at a second gap intersecting with a moving direction of the slider from the main stator, the assist stator consisting of a magnetic body having a pair of opposed walls forming a second area allowing the slider to move while keeping a predetermined clearance and wherein the assist stator is partitioned through a third gap continuing into the opposed walls of the assist stator. Welsch et al. (hereinafter Welsch) discloses a path sensor comprising an assist stator (2) arranged at a second gap intersecting with a moving direction of the slider (6) from the main stator (3), the assist stator (2) consisting of a magnetic body having a pair of opposed walls forming a second area allowing the slider to move while keeping a predetermined clearance (fig. 1)and wherein the assist stator (2) is partitioned through a third gap continuing into the opposed walls of the assist stator. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Oudet in view of the teachings of Welsch such that providing a magnetic flux leakproof member or assist stator to prevent the leakage of magnetic flux would increase the efficiency of the device.

Response to Arguments

Applicant's arguments filed on 12/21/07 have been fully considered but they are not persuasive. Applicant's argument "In the present application, by determining the presence of the gap Ga of the assist stator 141 (241) and adjusting a clearance of the gap Ga, it is possible to correct and alter output characteristics of the sensor. (Page 16, Lines 26-28; see e.g. Figs. 3(b) and 4(b)). According to an embodiment of the present

invention, Figure 24 illustrates the relationship between the gap of the assist stator and the hysteresis. (Page 29, Lines 18-21). As shown in Figure 24, the broader the gap of the assist stator, the smaller the hysteresis in the range in parallel translation. (Page 29, Lines 18-24)." However, claims do not recite such features. Until such features are claimed or required as a result of the features in the claims such arguments will not be considered. Applicant further asserts that "Figure 1 of Welsch does not disclose or even suggest an assist stator having a gap that continues into opposed walls of the assist stator, as required by Claims 4 and 7. The conductance piece 2 has an opening that allows the magnet 6 to slide, but does not include a gap in opposed walls." The opening in the assist stator (2) of Welsch could also be considered as gap in the opposed wall of the assist stator (2).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Assouad can be reached on 571-272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Reena Aurora